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P A P E R S

I N

M E C H A N I C K S.

M E C H A N I C K S.

IN consequence of the following Letter, received by the Society, from Mr. JOHN BELL, Serjeant of the Royal Regiment of Artillery, application was made to his Grace the Duke of Richmond, Master-General of the Ordnance, requesting his Grace would give directions that proper experiments might be made, before a Committee of the Society, to ascertain the merit of Mr. Bell's invention; and his Grace having given directions accordingly, proper trials were made, by throwing a loaded Shell * on shore, from a small mortar, fixed in a boat, moored in the River, about two hundred yards from the shore. To the Shell was attached a rope, one end of which remained on board

* By a loaded shell, is meant a shell filled with lead, by which means a staple, or ring, may be fixed, to which the rope is to be made fast : the shell, thus loaded, weighed about seventy pounds, and was eight inches in diameter.

board the boat; and the shell falling about one hundred yards within land, buried itself about eighteen inches in the gravel; when Mr. Bell and another person, on a raft, floated by casks, properly ballasted, hauled themselves on shore, in a few minutes, by the before-mentioned rope, These trials having been three times repeated with the desired success; and it appearing that the method proposed by Mr. Bell, of throwing a line on shore, from a ship in distress, either stranded, or in danger of being so, promises to be of infinite advantage in the maritime world, as by means thereof such vessel may obtain relief; any person, when landed, being enabled to secure ropes from the ship; or additional hands may be conveyed thereby from the shore, to assist those on board; and, in cases of imminent danger, where all hopes of saving the ship may be lost, Mr. Bell's method offers the most probable means of saving the lives of the crew.

The

The Society therefore voted a bounty of FIFTY GUINEAS to Mr. Bell, he leaving a complete model of his contrivance with the Society, which model is reserved in the Repository, for the inspection and use of the Public.

S I R,

HAVING conceived, from some successful experiments which I have made, upon a principle designed for troops escalading garrison walls, precipices, &c. that, should a vessel have the misfortune to be stranded near either flat or high grounds; in such case a shell, or grapnel, with a line, might be immediately thrown on shore, and, by the contrivance of a floating machine, there is great reason to think that the 'people on board the wreck might, with safety, successively haul themselves to land.

The number of melancholy accounts of lives being lost by such accidents, but particularly

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ticularly that of the Litchfield man of war, on the coast of Barbary, suggested to me the want of this sort of contrivance, and induces me to send a model of the machine for the inspection of the Society, and to beg the favour you will be pleased to lay the same before them.

Should the principle and design meet with their approbation, I will, if required, attend their pleasure, to give any further explanation.

I am, S I R,

Your obliged humble servant,

JOHN BELL,

Serjeant of the Royal Regiment of Artillery.

Woolwich, April 4, 1791.

Mr. MORE.

Captain

Captain EDWARD PAKENHAM, to whom the GOLD MEDAL was presented, for his invention of a substitute for a Rudder (see Vol. VII, page 205), having this year favoured the Society with a Drawing and Account of a Method of restoring the Masts of Ships, when wounded, or otherwise injured, in an easy, cheap, and expeditious manner; Thanks were ordered to him for this Communication, which the following Letters and annexed Cut will fully explain.

S I R,

THE little plan of a substitute Mast, which accompanies this, was drawn up with no other view than to serve as a resource in case such an accident should ever happen to myself, and without the least intention of being made public; but the advice of many of our first practical seamen
has

has induced me to believe it might, in many instances, prove useful to the maritime part of the community.

I therefore feel a pleasure in submitting it to your notice, convinced that every effort which tends to practical improvement, cannot fail of being highly acceptable to the Society.

To conclude, Sir, I can with truth assure you, that, though not without ambition, I have in this instance neither been seeking for fame or profit; and I hope you will accept this plan as a mark of my respect, and peruse it with a candid allowance for its imperfection. I have the honour to remain, with great respect,

S I R,

Your most obedient humble servant,

EDWARD PAKENHAM.

Mr. MORE.

SIR,

S I R,

AMONG the various accidents which ships are liable to at sea, none call more for the attention and exertion of the officer, than the speedy refitting of the masts; and having observed, in the course of last war, the very great destruction made among the lower masts of our ships, from the enemy's mode of fighting, as well as the very great expence and delay in refitting a fleet, after an action, particularly across the Atlantic;—A very simple expedient has suggested itself to me, as a resource in part, which appears so very speedy and secure, that the capacity of the meanest sailor will at once conceive it. I therefore think it my duty to state my ideas of the advantages likely to result from it; and I shall feel myself exceedingly happy, should they in any wise contribute to remedy the evil.

My plan therefore is, to have the heels of all lower masts so formed, as to become the heads: but it is not the intention of the above plan to have the smallest alteration

P made

made in the heels of the present lower masts; for, as all line-of-battle ships masts are nine inches in diameter larger at the heel than at the head, it will follow, that, by letting in the treffel-trees to their proper depth, the mast will form its own cheeks or hounds; and, I flatter myself, the following advantages will result from the above alteration.

First, I must beg to observe, that all line-of-battle ships bury one third of their lower masts, particularly three-deckers: it therefore follows, that, if the wounds are in the upper third, by turning the mast, so as to make the heel the head, it will be as good as new; for, in eight actions I was present in last war, I made the following observations.

That, in the said actions, fifty-eight lower masts were wounded, and obliged to be shifted, thirty-two of which had their wounds in the upper third, and of course the ships detained until new masts were made. And when it is considered that a
lower

lower mast for a ninety, or seventy-four, stands Government in a sum not less, I am informed, than two thousand to two thousand three hundred pounds,—across the Atlantic, the advantages resulting from the aforesaid plan, will be particularly obvious; not to mention the probability of there being no fit spars in the country, which was the case in the instances of the *Isis* and *Princess Royal*; and, as I was one of the lieutenants of the *Isis* at the time, I am more particular in the circumstance of that ship. The *Isis* had both her lower masts wounded above the cathar-pins, in her action with the *Cæsar*, a French seventy-four; and, as there were no spars at New-York, the *Isis* was detained five weeks at that place. Now, if her masts had been fitted on the plan I have proposed, I am confident she would have been ready for sea in forty-eight hours; and, as a further proof, I beg leave to add, that the whole fleet, on the glorious 12th of April, had not the least accident of any consequence, except what befell their lower

mafts, which detained them between eight and ten weeks at Jamaica.

The delay of a fhip, while a new maft is making, and probably the fleet being detained for want of that fhip, which frequently occurred in the courfe of laft war; the taking of fhipwrights from other work, with a variety of inconveniences not neceffary to mention here; muft be obvious to every officer that has made the fmalleft obfervations on fea actions.

You will further obferve, Sir, that this fubftitute is formed on the moft fimple principle, fitted to the meaneft capacity, and calculated to benefit all fhips, from a firft-rate down to the fmalleft merchantman, in cafes of an accident by fhot, a fpring, a rottennefs, particularly as thofe accidents generally happen in the upper third of the maft, and about the cheeks.

It might probably be objected, that a difficulty, and fome danger, might arife from the wounded part of the maft being below ;
but

but this will at once be obviated, when it is remembered that, as the wounded part is below the wedges, it may with ease be both fished, cased, and secured to any size or degree you please, with the addition of its being wedged on each deck.

As the extent of my wish in proposing the foregoing plan, is to be useful to society, I cannot help expressing how highly I shall feel myself flattered, in finding it meet with approbation, or if any hints can be drawn from it, which may ultimately be improved, to add, in the smallest degree, to the welfare and prosperity of the community ; having only had in view, its benefit and advancement, which, I trust, will ever be with me the first object of consideration. I have the honour to be, with great respect,

S I R,

Your most humble servant,

EDWARD PAKENHAM.

April 21, 1792.

Mr. MORE,

P 3

Ex-

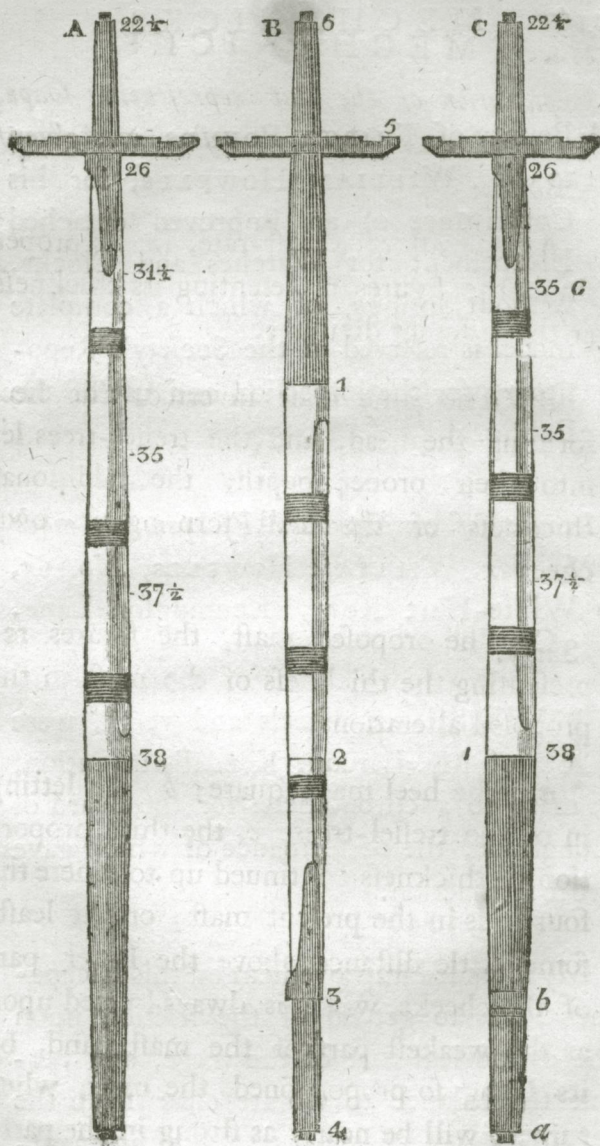
Explanation of the Cut representing Capt. Pakenham's Method of restoring Masts of Ships.

A. A mast of a first-rate, in its proper state, the figures representing its thickness at the different divisions.

B. The same mast inverted, the heel forming the head, and the tressel-trees let into their proper depth, the additional thickness of the mast forming its own cheeks.

C. The proposed mast, the figures representing the thickness of the mast in the proposed alterations.

a. The heel made square; *b*, the letting in of the tressel-trees; *c*, the third proportion of thickness continued up to where the fourth is in the present mast; or, at least, some little distance above the lower part of the cheeks, which is always looked upon as the weakest part of the mast; and, by its being so proportioned, the mast, when turned, will be nearly as strong in the partners as before.



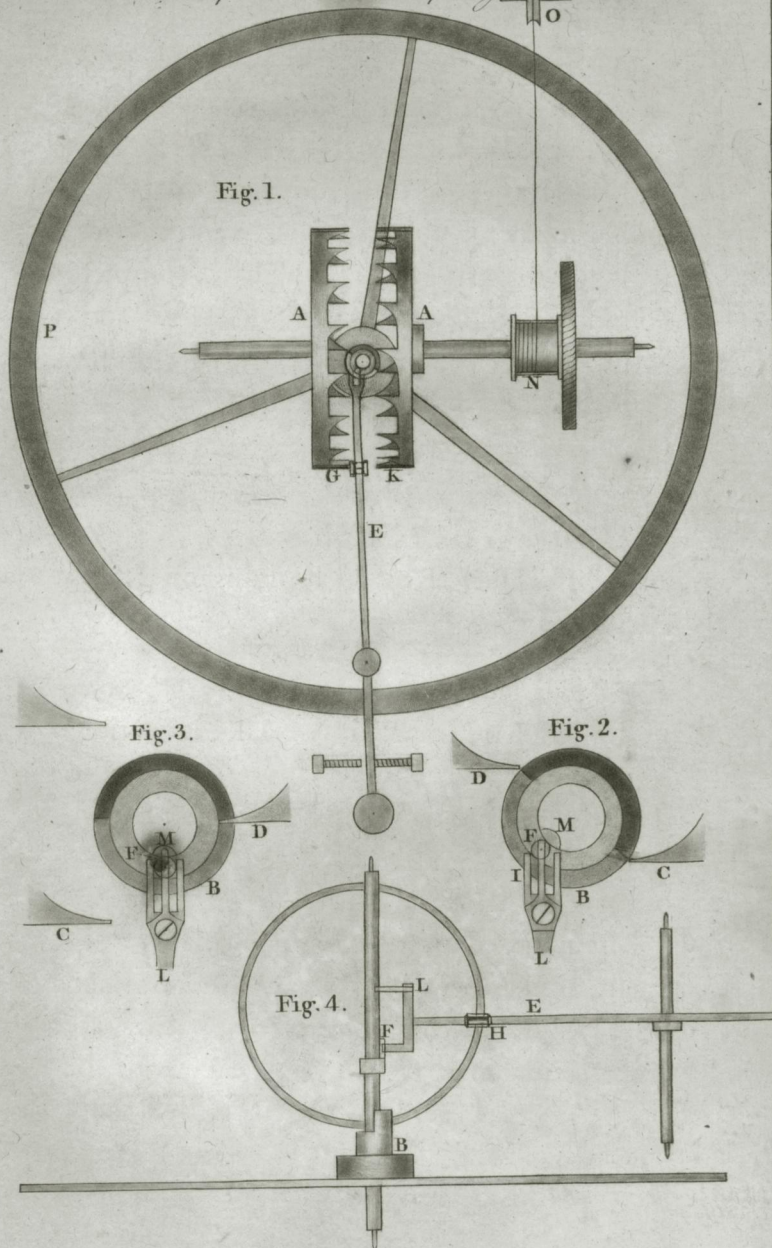
A Bounty of THIRTY POUNDS was given to Mr. WILLIAM HOWELLS, for his Contrivance of an improved detached Escapement for Watches and Clocks, without Springs, of which a complete model is reserved in the Society's Repository, for the inspection and use of the Public.

Account of an improved Escapement, made by Mr. WILLIAM HOWELLS, No. 15, White-Hart Row, Kennington-Lane, Surry.

THE balance-wheels and verge, were of Mr. Larcum Kendal's invention, as made to a chronometer for the Board of Longitude, the performance of which gave great satisfaction.

My intended improvement on this Escapement, was to get rid of the friction upon the cylindrical part of the verge, and permit the balance to vibrate clear from the
 escapement.

A double detached Escapement without Springs by M. W. Howell.



escapement-wheels; which being done, I found that I had gained properties no other escapement possessed; that is, the balance would vibrate two turns and back safe, against the back part of the fork belonging to the detent; and, by the pallet upon the verge, the detent is driven from one wheel to the other with the greatest ease: the action of the levers on the upper part of the fork is a preventive, so that the detent cannot get clear from the place where the verge left it; this detent being counterpoised, and without springs, makes the work very strong and complete. The wheels are, when the balance is at rest, unlocked; so that the balance cannot move without receiving motion.

Common verge watches have no oil upon the pallets, and my Escapement is in the same state: this makes it more valuable than any inclined plain escapement ever introduced, which requires oil. The balance, situated between the two wheels, will

will always receive the same impulse, in whatever position the watch may be placed; the want of which is the great defect of all detached escapements, and allowed so by Mr. Arnold, in a pamphlet lately published by him.

These, and many other perfections, that practice will bring forward, I hope will procure me the assistance of this respectable Society, so that I may be enabled to prosecute my intentions, and complete a pair of chronometers for the benefit of the Public, and my own private emolument. I beg leave to subscribe myself,

MY LORDS and GENTLEMEN,

Your most obedient
humble servant,

WILLIAM HOWELLS.

November 2, 1791.

To the Society for the Encouragement of Arts, Manufactures, and Commerce.

Description

Description of the Plate of a Double-Detached Escapement, without Springs, by Mr. William Howells.

Fig. 1. AA. Two crown wheels fixed upon the same axis, passing near to the staff of the verge, supported by two counterpoittances upon the upper plate.

F. The balance, supported by cock and poittance.

E. The detent, that locks the wheels, alternately supported by a cock upon the upper plate, with two screws to bank.

N. A barrel, with click and ratclut, and small thread round it, passing over the pulley O, by which a weight is hung, to set it a going, as shewn in the model.

Fig. 2 and 3, are pallets upon the verge, and the teeth of the wheels drawn larger, in order to make it more distinct. The same letters refer to all the figures.

Fig.

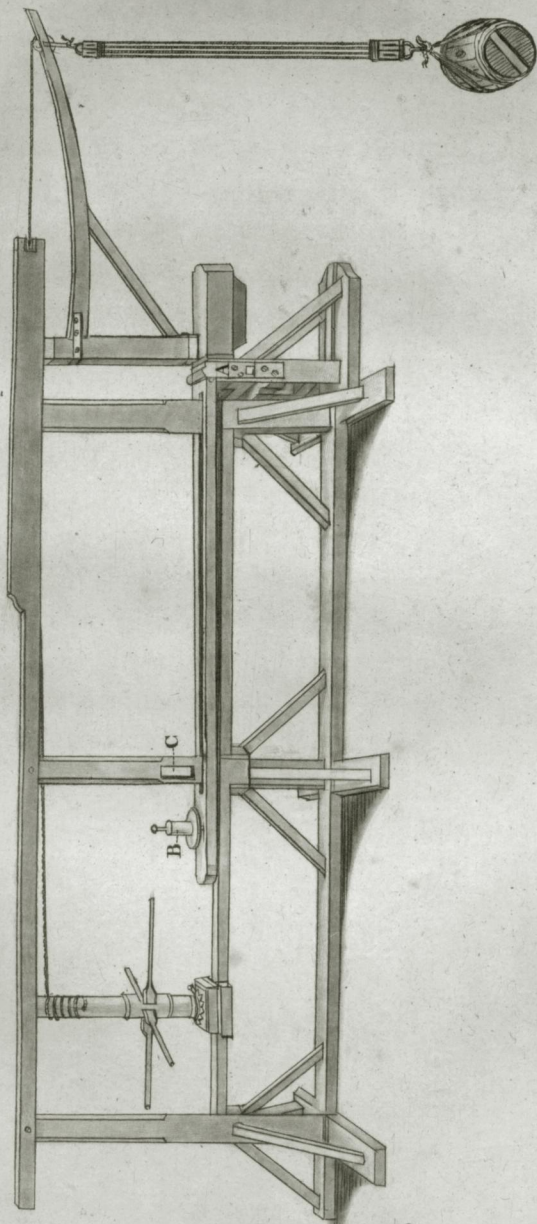
Fig. 2. B. A semi-circular pallet, which the tooth C is just quitting, and the tooth D is going to take: the wheels are locked by the pallet H, upon the detent E (see *fig. 1*), till the pin F (*fig 2*), upon the verge, takes it into the fork, and relieves the tooth G (*fig. 1*) from the pallet, and carries it to I (*fig. 2*); and the pin F will have carried the detent E, with the pallet H, and locked the tooth of the wheel at K.

Fig. 3. is the pallet, &c. at the point of rest: the piece L, which is screwed upon the detent E (*fig. 1*), is to prevent its being moved at any time, but when the pin F takes it; the end of it just clears the verge; and, when the pin F takes into the fork, it passes through the notch M, but is not intended to touch it.—This piece is left out in *fig. 1*.

Fig. 4. is another view of the Escape-ment, serving to shew the several parts in a different position.

A Bounty

A Weighing Crane by M^r Ab. Andrews.



A Bounty of FIFTEEN GUINEAS was given to Mr. ABRAHAM ANDREWS, of Higham Ferrers, in Northamptonshire, for his invention of a Crane, whereby the body suspended is weighed, during the time of raising. (See Vol. IX, page 206.)

S I R,

I HAVE sent the model of the Crane for ascertaining the weight of the body suspended; humbly presenting it to the consideration of the Society for the Encouragement of Arts, Manufactures, and Commerce.

I flatter myself, they will consider such a mode of ascertaining weights, very useful on many occasions, particularly in loading and unloading vessels.

The

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The proportion of the beam, in the model, is as one to twenty: the large weight is five pounds, and the smaller one a quarter of a pound. The latter, when placed on the beam end, will equipoise the large one, when hung on the pulley, at the end of the gib-beam, which must stand in a right line with the Crane, at the time the weight is adjusted; otherwise it will occasion a friction, which will impede the moveable beam playing freely.

I am, S I R,

Your most humble servant,

ABRAHAM ANDREWS:

Higham Ferrers,
January 27, 1791.

Mr. MORE.

Description

Description of the Print of a Weighing Crane, by Mr. Abraham Andrews.

THE gib of the Crane stands on a horizontal beam, moveable on a centre, at A: and the distance of the centre A, from the bearing of the upright, being, to the distance at B, as one to twenty; the weight placed at B, determines the weight of the body suspended, in the proportion as one is to twenty. C is a stub or projection of wood, serving to prevent the beam rising too high, from the weight hanging at the end of the gib.

A Bounty of FORTY GUINEAS was voted to Mr. HILL, for his invention of a Machine for drawing Bolts out of Ships, as described in the following Papers; and of which a Model is reserved in the Society's Repository.

S I R,

HAVING invented a Machine for drawing Bolts out of Ships Bottoms, when under repair, &c. I have taken the liberty to bring it to the Society, for their inspection and approbation. If you will be so good as to lay the machine, with the enclosed accounts, before them, you will oblige,

S I R,

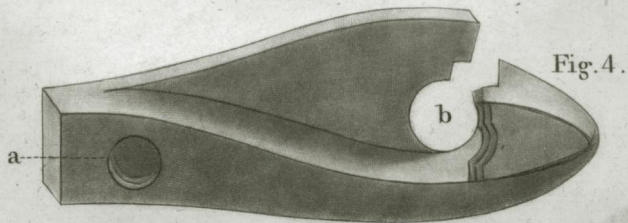
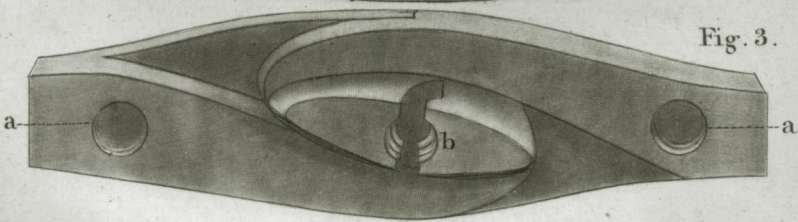
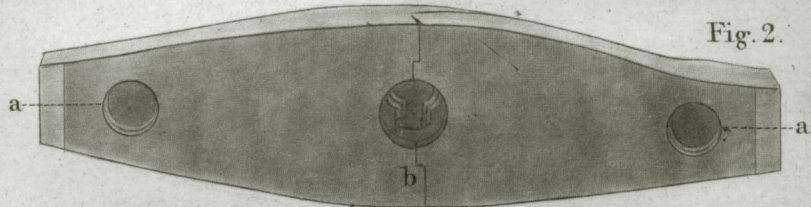
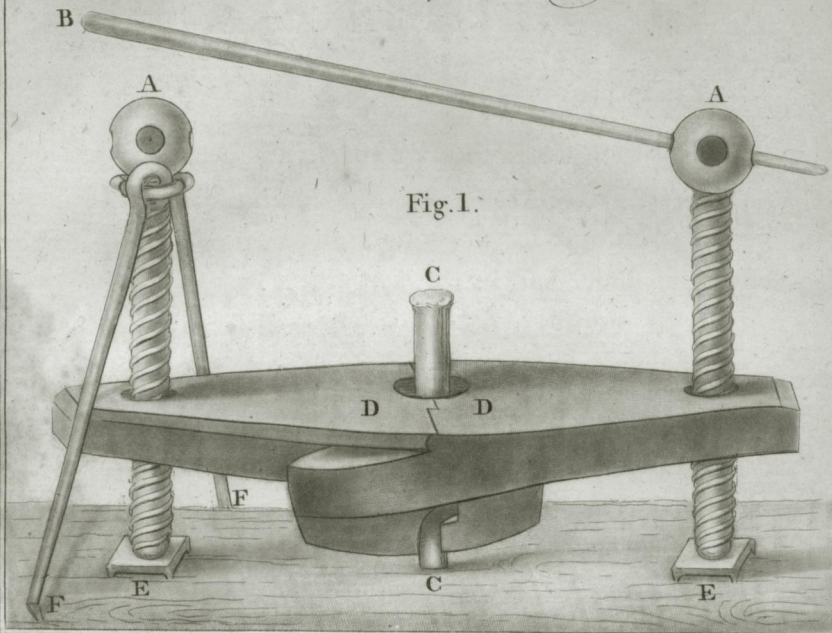
Your most obedient
humble servant,

WILLIAM HILL.

*Butt-Lane, Deptford,
Nov. 7, 1792.*

First,

W. William Hill's Machine for drawing Ship Bolts. Plate 3.



First, The use of this machine is to draw the kelson and dead-wood bolts out, and to draw the knee of the head bolts.

Secondly, The heads of the kelson bolts, heretofore, were all obliged to be driven through the kelson, floor-timbers, and keel, to get them out: by this means the kelson is often entirely destroyed, and the large hole the head makes, materially wounds the floors; and frequently, when the bolt is much corroded, it scarfs, and the bolt comes out of the side of the keel.

Thirdly, the dead-wood bolts that are driven with two or three drifts, are seldom or ever got out, by which means the dead wood is condemned, when some of it is really serviceable.

Fourthly, in drawing the knee of the head bolts, sometimes the knee starts off, and cannot be got too again, but furs up, and
Q
with

with this machine may be drawn in ; for it has been proved to have more power in starting a bolt, than the maul.

THIS is to certify whom it may concern, That Mr. Hill's Machine for drawing Bolts, was tried in his Majesty's Yard at Deptford, and was found of the greatest utility.

First, It drew a bolt, that was driven down so tight, as only to go one inch in sixteen blows, with a doubled-headed maul, and was well clenched below: the bolt drew the ring a considerable way into the wood, and wire-drawed itself through, and left the ring behind.

Secondly, It drew a bolt out of the Venus's dead wood, that could not be got out by the maul. That part of it which went through the keel, was bent close up to the lower part of the dead wood; and the machine

chine drew the bolt strait, and drew it out with ease.

Given under our hands, this ninth day of January, 1792.

M. WARE, Master Shipwright,

J. DANN, First Assistant,

JOHN FRANKLAND, Second Assistant.

THESE are to certify whom it may concern, That the bolt which accompanies this Certificate, was a kelson bolt in the West-India ship Stanley, Capt. Hayes, in Messrs. Wells's Yard, Deptford; and, being a bolt of two drifts, could not be driven out: it was therefore drawn out by the machine invented by Mr. William Hill, Carpenter of his Majesty's ship Active; as witness our hands, this seventh day of January, 1792,

JAMES HAYWARD, Assistant to
Messrs. Wells,

THOMAS JONES, Foreman.

The bolt is four feet six inches long, and one inch three eighths in diameter.

Explanation of the Plate of Mr. William Hill's Machine for drawing Ships Bolts.

AA. (*fig. 1*) two strong male screws, working in female screws near the extremities of the cheeks, against plates of iron, E E.

CC. The bolt to be drawn, which, being held between the chaps of the machine, at DD, is, by turning the screws by the lever B, forced upwards out of the wood or plank of the ship. F F are two dogs, with hooks at their lower extremities, which, being driven into the plank, serve to support the machine till the chaps have got fast hold of the bolt. At the upper part of these dogs, are rings passing through holes in a collar, moveable near the heads of the screws.

Fig. 2. is a view of the upper side of the cheeks, when joined together; *a a*, the holes
in

in which the screws work ; *b*, the chaps by which the bolts are drawn.

Fig. 3. The under side of the cheek ; *a a*, the holes in which the screws work ; *b*, the chaps by which the bolts are drawn, and where the teeth that gripe the bolt are more distinctly shewn.

Fig. 4. One of the cheeks separated from the other, the letters referring, as in *fig. 2* and *3*.

THE GOLD MEDAL, or FORTY GUINEAS, being the Premium offered for Cranes for Wharfs, was adjudged to Mr. JAMES WHITE, who made choice of the pecuniary Reward. An Account of his Crane, and Plate of it, are annexed; and the model reserved in the Society's Repository.

S I R,

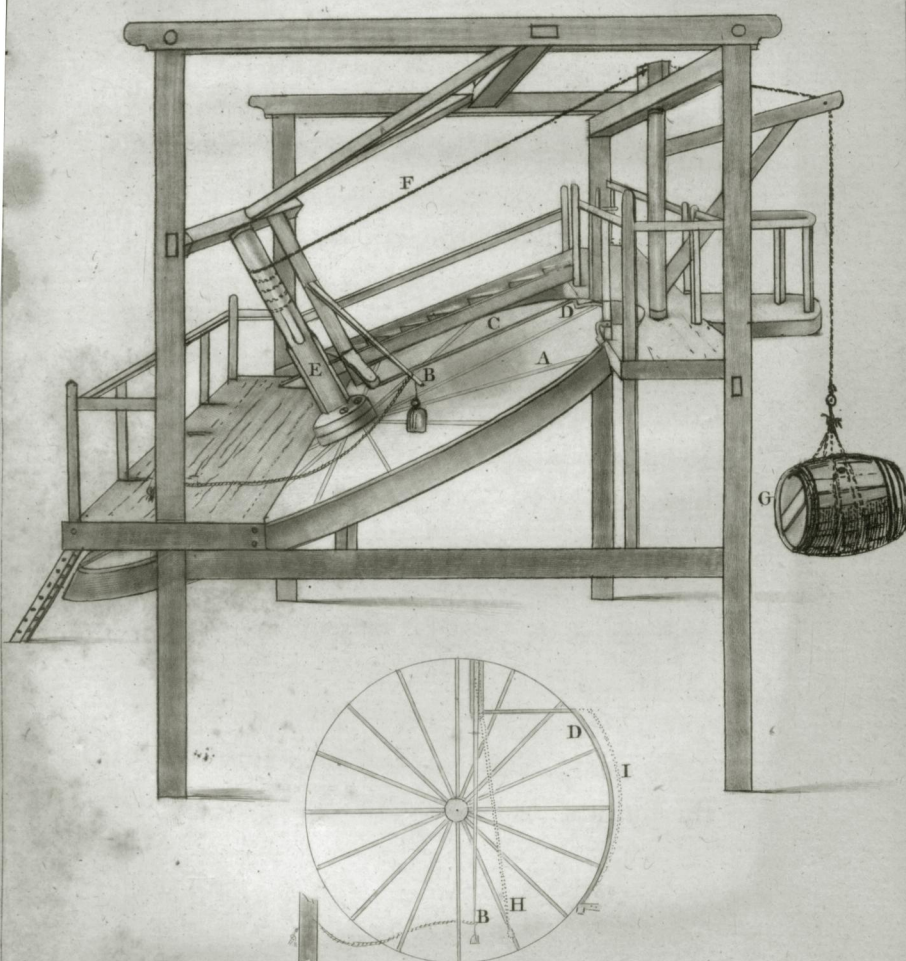
I HAVE to desire you would lay before the Society for the Encouragement of Arts, Manufactures, and Commerce, the model of a Crane, which accompanies this.

Its properties are,

First, Its simplicity, consisting of a mere wheel and axle.

Secondly, Its only friction, exclusive of the pulleys, is that on the two gudgeons of
the

A Perspective View of the Model of M.^r J.^s Whites Crane.



the shaft; and one of these supports the weight of the wheel and of the man that works it, nearly in the direction of its point.

Thirdly, It is durable, as is evident from the two properties above mentioned.

Fourthly, It is safe; for it cannot move but during the pleasure of the man, and while he is actually pressing on the gripe lever.

Fifthly, This Crane admits of an almost infinite variety of different powers, and this variation is obtained without the least alteration of any part of the machine.

If, in unloading a vessel, there should be found goods of every weight, from a few hundreds to a ton, and upwards, the man that does the work will be able so to adapt his strength to each, as to raise it in

Q 4 a time

a time inverfely proportionate to its weight, he walking always with the fame velocity as nature and his greateft eafe may teach him.

It is a great difadvantage in fome cranes, the annihilation of which has juftly become an object of the Society's attention, that the fmalleft weight muft be as long in raifing as the largeft, unlefs the man turn or walk with a greater velocity, which tires him in a ftill greater proportion. In other cranes, perhaps two or three different powers may be procured; to obtain which, fome pinion muft be fhifted, or freft handle applied or reforted to. In this crane, on the contrary, if the labourer find his load fo heavy as to permit him to afcend the wheel, without turning, let him only move a ftap or two toward the circumference, and he will be fully equal to the tafk. Again, if the load be fo light as fcarcely to refift the action of his feet, and thus to oblige him

him to run through so much space as to tire him beyond necessity; let him move laterally towards the centre, and he will soon feel the place where his strength will suffer the least fatigue by raising the load in question.

It has been before observed, that, if left alone, this Crane will naturally reduce itself to a state of rest, even though a weight were suspended to it. The means will appear to be, the gripe or brake, at the top, and its lever, which stretches across the diameter of the wheel, at the height of a man's breast, when in an attitude of treading the wheel to the best advantage.

It may be necessary to observe, with respect to the dimensions of the present Crane, and some other peculiarities of its construction, that what is now the frame, and seems to form a part of the crane, must be considered as a part of the house in which
it

it is placed; since it would be mostly unnecessary, should such cranes be erected in houses already built. With respect likewise to the horizontal part, by walking on which, the man who attends the gib occasionally assists in raising the load, it is not an essential part of this invention, where the crane is not immediately contiguous to the gib; although, where it is, it would be certainly very convenient and economical.

In warehouses, and where this should be found unnecessary, together with the framework above alluded to, this crane would be extremely simple and cheap; and this wheel, though of considerable diameter, occupies but little room, from its thinness and inclination. A slit in a floor, about two feet wide, with a support above and below for the axis, is all that is necessary to constitute and contain the crane; for goods may be stowed both under the whole wheel, and above nearly half of it; and
there

there would be ample room to stow a large quantity of goods properly sheltered from the weather. Hence also it appears, that the house would diminish the wharf-room much less than many others, standing, on the whole, on less ground. One man's weight alone, applied at the extremity of the wheel, would raise upwards of a ton; and it need not be added, that a single-sheaved block would double that power. Suffice it to say, that the size may be varied in any required *ratio*; that this wheel will give as great advantage, at any point of its plane, as a common walking wheel of equal diameter, as the inclination can be varied at pleasure, as far as expediency may require. I remain,

S I R,

Your very humble servant,

JAMES WHITE.

Chevening, Kent,
Feb. 6, 1792.

Mr. MORE.

Explanation

*Explanation of the Plate of Mr. James
White's Crane.*

A. a circular-inclined plane, moving on a pivot underneath it, and carrying round with it, the axis E.

A person walking on this plane, and pressing against the lever B, throws off the gripe D by means of an iron rod C, and thus admits the plane and its axis to move freely, and raise the weight G, by the coiling of the rope F round the axis E.

To shew more clearly the construction and action of the lever and gripe, a plan of the circular-inclined plane, with the lever and gripe, is added, where B represents the lever, D the spring or gripe. In this plan, when the lever B is in the situation it now appears, the spring or gripe D presses against the periphery of the plane, as shewn by the double line; and the machine cannot

not move, but when the lever B is pressed out to the dotted line H : the gripe is also thrown off to the dotted line I, and the whole machine left at liberty to move. One end of a rope or cord, of a proper length, is fixed near the end of the lever B, and the other end made fast to one of the uprights, serving to prevent the lever moving too far, when pressed by the man.

In consequence of the Premium offered for taking Whales by the Gun-Harpoon, in the year 1791; the following Certificates were received, and THREE GUINEAS paid for each Fish so taken, viz.

To THOMAS SINTON,	one Fish,	Three Guineas.
JAMES BROWN,	two,	Six Guineas.
WILLIAM REAY,	one,	Three Guineas.
HENRY ALLISON,	one,	Three Guineas.
JOSEPH HAYES,	one,	Three Guineas.
JOHN BELL,	one,	Three Guineas.
GEORGE SAUL,	one,	Three Guineas.
GEORGE NESBIT,	two,	Six Guineas.
AND. ANDERSON,	one,	Three Guineas.
THOMAS KELICK,	one,	Three Guineas.

In all Thirty-six Guineas.

An Account of the Whales shot with the Harpoon-Gun, by the undermentioned Harpooners, in the Ship Queen Charlotte, of London, under my command, in Davis's Streights, this present year.

May 6, 1791. **T**HOMAS SINTON
shot a fish at twelve
fathoms distance: it took in among a great
deal

deal of ice: in the space of an hour and a half, it was up several times, where the boats could not get at it; but at length it came out in clear water, very much spent, and was killed in a few minutes. Length of bone, eleven feet five inches; lat. $68^{\circ} 20'$ N. about twenty leagues from the land.

May 12, same place. James Brown shot a fish at eight fathoms distance; run out three lines, came up blowing blood, and was killed in an hour. Length of bone, nine feet six inches.

May 17. James Brown again shot a fish at nine fathoms distance, in S. E. Bay of Disko, about a mile from the shore: it went right down, two lines in length, and came up in the same place where shot, in twenty minutes, and was killed directly. Nine feet eight inches bone.

June

June 15. William Reay shot a fish in latitude $71^{\circ} 30'$, close to a large pack of ice: it run down three lines, and came up in about half an hour, in the same place, and was killed in a few minutes: it was shot at ten fathoms distance. Bone, ten feet ten inches.

June 17. Henry Allison shot a fish, near the same ice and place as the last, at ten fathoms distance: it run swiftly a line's length, and suddenly turned again into clear water, and was killed in twenty minutes.

THESE are to certify, That the above-mentioned Whale Fish were shot, killed, and taken into the said ship, and that all of them were got by the Gun-Harpoon, as they were at too great a distance to be struck by any other means, and were at the instant of going away; and I hope the above-named persons are entitled to the premiums so generously proposed by
the

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your Society, which is the intent of my troubling you with this letter. I am,

GENTLEMEN,

Your most obedient,

humble servant,

JOHN WHEATLEY.

No. 8, Stepney-Causeway,
November 4, 1792.

Mr. MORE.

S I R,

BEING informed that the Society for the Encouragement of Arts, Manufactures, and Commerce, have offered a Premium to Harpooners, as an encouragement of the use of the Harpoon-Gun in the Whale Fishery; I beg leave to certify to you the under-mentioned instance, last season, in the ship *Blenheim*, of London, at Greenland, in latitude 76°, longitude 8° east, under my command, in behalf and for the use of the Harpooners, as an inducement for others to follow the example,

R that

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that Joseph Hayes shot a Whale on the
6th day of June, which we got.

I am, S I R,

Your humble servant,

JOHN METCALF,
Master of the ship Blenheim.

*Fox-Lane, Shadwell,
Dec. 3, 1791.*

Mr. MORE.

S I R,

I HEREBY certify, That the following
Harpooners, belonging to the ship Le-
viathan, of London, under my command,
shot with the Gun-Harpoon, two Whales,
viz. on the 12th of May, 1791, John Bell
shot a Whale; and, on the 15th of June,
George Saul shot a Whale. Both these
Whales were taken in Davis's Straits.

I am, S I R,

Your humble servant,

WILLIAM STAVERS.

December 20, 1791.

Mr. MORE.

SIR,

S I R,

THE following is an account of Whales shot with the Harpoon-Gun, by the undermentioned Harpooners, belonging to the ship *Britannia*, under my command, in Davis's Straits, this present year 1791.

May 5. George Nesbit shot a fish at fourteen fathoms distance, in lat. $68^{\circ} 15'$, about fifteen leagues from the land: ran down about four lines, and came up, in half an hour, amongst some loose streams of ice, very much spent by the wound of the Harpoon, and was killed in about an hour and a half.

May 12. Andrew Anderson shot a fish at eight fathoms distance, in latitude $68^{\circ} 20'$, about fourteen leagues from the land: ran down about four lines and a half, and came up in about an hour, much spent, and was killed in twenty minutes.

R 2

June

June 2. Thomas Kellick shot a fish at ten fathoms distance, the Harpoon going quite through her rump, about six feet before the tail, in latitude $71^{\circ} 15'$, about three leagues from the land: she took under a field of ice, and came out at the opposite side, having run out fifteen lines, and was killed in about two hours.

June 4. George Nesbit shot a fish at seven fathoms distance, in latitude $71^{\circ} 5'$, which run down about three lines, and came up in about half an hour, very much spent, by the wound of the Harpoon, and was killed in about fifteen minutes.

THESE are to certify, That the above-mentioned fish were shot, killed, and taken on board the ship Britannia, at the times and places above named; which I hope will entitle the men to the Premiums offered by the Society, which

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which is the occasion of my troubling you
with this Certificate.

I am, S I R,

Your most humble servant,

GEORGE WATSON.

*White-Horse Street,
Stepney Causeway.
December 1, 1791.*

Mr. MORE.